

**Date:** September 22, 2009

**Title:** Percentages and Proportions

**Objective:** To change percentages to proportions.

**IN:** Mrs. Evans wants to make 3 cookies for every 2 students that she has in class to share. How many cookies should she make if she has 144 students?

The proportion  $\frac{x}{100} = \frac{20}{200}$  asks, "20 is what percent of 200?"

Write each proportion as percent question.

a)  $\frac{x}{24} = \frac{25}{100}$

b)  $\frac{x}{100} = \frac{4}{44}$

c)  $\frac{30}{100} = \frac{90}{x}$

The proportion  $\frac{36}{45} = \frac{x}{100}$  asks, "36 is what percent of 45?"

Write each proportion as percent question.

a.  $\frac{180}{100} = \frac{n}{36}$

c.  $\frac{386}{p} = \frac{712}{100}$

b.  $\frac{a}{100} = \frac{27}{4}$

d.  $\frac{11}{111} = \frac{t}{100}$

- ① The Jelly Junior High school color is made by mixing red paint with yellow paint. The ratio of red to yellow is 3 to 5. How much red paint should be mixed with 20 oz of yellow?  
\_\_\_\_\_ oz
- ② The Lawn Order lawnmower factory can produce 12 lawnmowers in 8 hours. How many hours will it take the factory to produce 30 lawnmowers?  
\_\_\_\_\_ h
- ③ An object that weighs 10 lb on Earth would weigh only 4 lb on Mars. If you weigh 95 lb on Earth, how much would you weigh on Mars? \_\_\_\_\_ lb
- ④ The ratio of orange juice to pineapple juice in Tropical Treat punch is 4 to 3. Bill has 64 oz of orange juice. How much pineapple juice does he need?  
\_\_\_\_\_ oz
- ⑤ A cookie recipe for 60 cookies calls for 4 cups of flour. How much flour is needed to make 90 cookies?  
\_\_\_\_\_ cups
- ⑥ Jose can read 7 pages of his book in 5 minutes. At this rate, how long will it take him to read the entire 175-page book? \_\_\_\_\_ min
- ⑦ While exercising, Julie found that her heart was beating 12 times every 5 seconds. How many times was it beating per minute (60 seconds)? \_\_\_\_\_
- ⑧ If there are 1,200 calories in 8 oz of hot fudge, how many calories are in 3 oz of hot fudge? \_\_\_\_\_ cal
- ⑨ At a certain college, the ratio of men to women is 6 to 5. If there are 1,500 men, how many women are there? \_\_\_\_\_
- ⑩ One of the world's largest stained-glass windows is at Kennedy International Airport in New York. It is a rectangle with a height to length ratio of 2 to 25. If the window is 24 feet high, how long is it? \_\_\_\_\_ ft

# What Did Snidely Say After Filling His Car With Super Premium, TopTest, Power Plus Gasoline?



Solve each problem and find your answer in the rectangle below. Cross out the box that contains your answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

|     |       |       |     |    |     |     |    |
|-----|-------|-------|-----|----|-----|-----|----|
| HI  | PU    | TA    | KE  | EP | JU  | NK  | IN |
| 450 | 48    | 1,210 | 300 | 12 | 125 | 340 | 20 |
| GO  | TO    | HO    | OD  | NE | ED  | GA  | SS |
| 136 | 1,250 | 6     | 15  | 40 | 144 | 38  | 7  |

I. Solve. Round each answer to the nearest tenth.

(A)  $\frac{7.5}{12} = \frac{4.2}{x}$

(B)  $\frac{15}{8} = \frac{80}{x}$

(C)  $\frac{6}{9.4} = \frac{x}{32}$

(D)  $\frac{7.9}{x} = \frac{1}{25}$

(E)  $\frac{12}{x} = \frac{3.14}{1}$

(F)  $\frac{x}{58} = \frac{37.5}{100}$

II. Solve. Round each answer to the nearest whole number.

(G) Tom's red bicycle travels 50 ft for every 3 pedal turns. How many pedal turns are needed to travel a mile (5,280 ft)?

(H) For a survey, a company decided to call 7 out of every 5,000 people. How many people should be called in a town of 78,000 people?

(I) Gloria Trench checked her gas mileage and found that she had used 16.6 gal of gas to travel 372 mi. At this rate, how many gallons will she use to travel from San Francisco to Washington, D.C., a distance of 2,850 mi?

(J) A U.S. nickel contains 3.9 g of copper and 1.2 g of nickel. How many kilograms of copper must be combined with 500 kg of nickel to make nickel coins?

(K) On the stock exchange, 100 shares of Pizzazz Corp. stock are selling for \$425. How many shares can be purchased for \$1,000?

(L) At Paul Bunyon's logging camp, the cook scrambled 20 eggs for every 3 loggers. How many eggs did he need for the 288 loggers at the camp?

## Did You Hear About...

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| A | B | C | D | E | F |
| G | H | I | J | K | L |

Use a calculator to do each exercise. Find your answer and notice the word next to it. Write this word in the box containing the letter of the exercise.

24.7 PIECES  
21.8 STORIES  
1,840 FAINTED  
197.5 DROPPED  
19.6 THAT  
1,625 CAN  
6.7 THE  
116 BOX

20.4 WHO  
127 TRASH  
1,355 PILE  
317 INTO  
235 AND  
3.8 TEN  
42.7 WRITER

109 A  
324 FROM  
1,920 LIVED  
211.5 WROTE



Homework:  
Worksheet on the wiki

### SUMMARY:

To change a percentage  
to a proportion...

OUT:

While resting, Mr. Basile  
found that his heart was  
beating 8 times every 5 seconds.  
How many times does his heart beat  
in one minute?